

region; apparently lacking south of New Milford. *Chiogenes hispidula* and *Kalmia glauca* grow at Spectacle Ponds, Kent; *Andromeda polifolia* at Spectacle Ponds and Hatch Pond; *Cassandra calyculata* as far south as Huntington; and in Berzelius list, at Riverhead, L. I. This is more common and more southerly than the two preceding.

Nemopanthus fascicularis is common around New Milford and Kent in swamps.

Many examples of herbaceous plants could be given corroborating the effect of altitude and latitude, which, however, it will be better to defer till another time.

BRIDGEPORT, CONN.

IS ARTEMISIA STELLERIANA A NATIVE OF NEW ENGLAND?

M. L. FERNALD.

ONE of the most conspicuous plants of sand-dunes and the drier portions of many sea-beaches of New England is *Artemisia Stelleriana*, a species first described from Kamtschatka. Yet, abundant as is the plant about many of our long-visited resorts, Mt. Desert, Old Orchard, Nahant, Nantasket, Truro, Martha's Vineyard, Narraganset Pier, Newport, and New London, as well as Long Reach and Sandy Hook, it was apparently unrecorded in our botanical literature until within the last quarter-century. Probably the first station noted in eastern America was at Nahant, Massachusetts, in 1877. A specimen collected there, or on the adjacent Lynn Beach, by Dr. W. G. Farlow, in 1879, is labelled "growing wild in large tufts," and of this station Mr. John Robinson wrote in 1880, "evidently increasing quite rapidly." A specimen collected by Miss G. H. Learned at New London, Connecticut, in 1892, is marked "well established." These notes of Dr. Farlow, Mr. Robinson, and Miss Learned, then, as well as Dr. Britton's records of the plant in his New Jersey catalogue, indicate their belief that the plant is introduced.

On the other hand, there is a rather general idea that the plant is indigenous on our coast. In the Synoptical Flora and in the last edition of Gray's Manual this is suggested, though with some doubt; in various local floras the plant is treated in the same non-committal way; and in the Illustrated Flora, though its introduction into eastern America

may be inferred, no definite statement to that effect is made, as is done in case of *A. Absinthium*, *A. Abrotanum*, *A. annua*, etc. Thus as treated in standard works the exact status of the species in our flora is not clearly defined.

It is a significant fact that this very conspicuous plant was not seen upon the New England coast until 1877, and that from that date until the present time it has appeared in ever-increasing abundance at points long known and visited by botanists. Furthermore, in 1876, the plant was discovered in dry sand on the coast of Skåne, the southernmost province of Sweden, "the most thoroughly examined province of Sweden from the botanist's point of view;" in 1891 it was found on the sandy coast at North Bull, County Dublin, Ireland; in 1892, on the coast of Zealand, Denmark; and in 1895 on the sands between Penzance and Marazion in Cornwall.

In the Journal of Botany for 1894 and previously in a Swedish journal, *Botaniska Notiser*, Professor Areschoug discussed¹ at length the occurrence of this Kamtschatkan plant in Europe and America, favoring the view that it has long been a member of our flora, until recently overlooked because of its habitat—barren sands which are rarely visited. He further argued that the plant must have spread laterally from northern Asia to Europe and America immediately after the Glacial Period, before the return northward of the flora which now characterizes so much of Europe and America, and that although not yet known to us it will be found in many sandy river-valleys of North America.

Replying to Professor Areschoug's most interesting and ingenious argument, Mr. Nathaniel Colgan showed² very conclusively that the extensive colony of the plant found by him in County Dublin had originated from waste fragments thrown upon the sand from a neighboring nursery. The simple explanation given by Mr. Colgan of the origin of the colony in Ireland is essentially applicable to our American stations. If this very conspicuous plant were indigenous upon Old Orchard, Nahant, Martha's Vineyard, and other sandy shores, it is singular that no one observed it before 1877. Mr. Walter Deane informs me that in his youth he was familiar with Old Orchard Beach, and that at that time this *Artemisia* was not seen; in Tracy's list (1858) of the plants of Lynn it is not mentioned, nor does the late Dr. Morong note it in

¹ *Botaniska Notiser*, 1880, 137, and 1893, 111; *Journ. Bot.* xxxii. 70.

² *Journ. Bot.* l. c. 104.

his paper¹ upon the flora of Martha's Vineyard. However, in the seventies *A. Stelleriana* was popular in America, as well as in Europe, as a bedding plant. For a few years it was used very extensively for its mass of gray foliage, and to-day, in many old-fashioned gardens in Maine, it is still a favorite under the name "Dusty Miller." Professor Areschoug argued that because the plant rarely spreads from gardens to the neighboring districts and because it abounds on sand-dunes and beaches remote from gardens it cannot have escaped from cultivation to its present coastal stations. It cannot be stated with assurance that the plant has reached the New England sea-beaches directly from neighboring gardens; but a statement made by a nurseryman, attempting to account for the colony in County Dublin, and quoted by Mr. Colgan in his article above cited may as well apply to our own as to the Irish station: "It is a plant of the freest possible growth. Any bit of the top or rootstock swept out with refuse would be sure to grow. . . . Tops have often been used for mixing with cut-flowers, and may have assisted in the make-up of breast-bouquets, which, worn by some visitor to the North Bull, may have been thrown away as withered, and have got covered with sand." In view, then, of the very striking habit of the plant, its sudden appearance on sea-beaches and sand-dunes, especially in the neighborhood of summer resorts, soon after its period of popularity as a bedding plant, and its probable absence from our flora prior to that time, there seems no doubt that *Artemisia Stelleriana* was originally introduced along our coast and that we have no reason longer to regard it as a species native to New England.

GRAY HERBARIUM.

PLANT RELATIONS,² by Prof. J. M. Coulter of the University of Chicago, is a clear and terse statement of the biological relations of plants to each other, to their inorganic environment, and to animals. It thus presents what are doubtless the most fascinating or, as one may say, the most sensational aspects of plant life. The illustrations are numerous and excellent both as to clearness and artistic effect. In fact they are, as in some of our current magazines, so copious and striking as to distract the attention and impair the power of concentrating upon the text.

¹ Field and Forest, iii (1878), 119.

² Octavo, vii and 264 pp. copiously illustrated and well indexed. Appleton & Co., 1899.